50X1-HUM

CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

CONFIDENTIAL

50X1

COUNTRY	East Germany	REPORT	
SUBJECT	1. Production Capacity and Facilities of the Eisenhuettenkombinat Stalin, Fuerstenberg/Oder 2. Site Layout of the Eisenhuettenkombinat Stalin	DATE DISTR.	17 March 1954
		NO. OF PAGES	11
DATE OF INFO.		REQUIREMENT	
PLACE ACQUIRED		REFERENCES	

50X1

50X1-HUM

THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.
THE APPRAISAL OF CONTENT IS TENTATIVE.
(FOR KEY SEE REVERSE)

50X1-HUM

50X1

CONFIDENTIAL

STATE	#x	ARMY	#x	NAVY	#x	AIR	#x	FBI		AEC		ORR Ev	X		

(Note: Washington Distribution Indicated By "X"; Field Distribution By "#".)

50X1

CONFIDENTIAL

SECURITY INFORMATION

REPORT

50X1-HUM

COUNTRY : Germany

DATE DISTR. 16 FEB 54

SUBJECT : 1. Production Capacity and Facilities of EKS
2. Site Layout of EKS Plant, Fuerstenberg a/d Oder

NO. OF PAGES 10

PLACE ACQUIRED :

NO. OF ENCLS. (LISTED BELOW)

50X1-HUM

DATE ACQUIRED

SUPPLEMENT TO REPORT NO.

DATE OF INFORMATION

THIS IS UNEVALUATED INFORMATION

50X1-HUM

50X1-HUM

INTRODUCTION

1

HISTORY

2. I learned that originally two groups of four blast furnaces each had been planned for the production of pig iron at EKS. The first group of four blast furnaces was completed and in operation by October 1952 (furnace No. 1 and No.2 were completed sometime in 1951, furnace No.3 in May 1952, and furnace No. 4 in October 1952). Furnace No. 5 (of the second group) was scheduled for completion by May 1953, then postponed to September 1953, but still was not in operation

50X1-HUM

CONFIDENTIAL

SECURITY INFORMATION

The construction of furnace No.6 was postponed until the installation of a third pig-casting machine, which was scheduled for January 1954. By October 1953 about 20 per cent of the construction work on furnace No. 6 had been done. Through the cancellation of the steel plant project in May 1953, the installation of a new (two were already operating) pig-casting machine had become imperative.

CONSTRUCTIONAL DATA

3. All blast furnaces in EKS were of the same size and of the same constructional standard type. My rough estimates are: 30 m. height, diameter unknown to me, cylindrical, approximately 900 tons holding capacity each, with one 60 m. high smokestack adjacent to each furnace. The furnace shell was steel plate of 40 mm. thickness and lined by silica bricks. The foundations were built in tubs of steel concrete (it had been necessary to lower the ground-water level from the existing 4.5 m. level). A portal crane on rails was installed with 100 tons of lifting power for lifting and tipping the ladles into the pig-casting machine.

4. The blower-engine house contained seven turbo compressors (six operating and one reserve) for blast furnace group 1 (furnaces numbers 1 to 4) each with a volume of 18,000 cubic meters per hour of air drawn in; furthermore, four piston compressors each with 6,000 cubic meters per hour volume of air drawn in; also two more piston compressors each with 4,000 cubic meters per hour of air drawn in.

5. I heard that the construction of an oxygen plant was planned at one time with a capacity of 25,000 cubic meters per hour (after the "Lindeverfahren"), but it was never built.

6. The construction of two crane bridges was planned for the end of 1953. One was intended for the ore storage yard with a span width of 40 m. and a lifting capacity of the trolley carriage of 40 tons; this bridge crane was being built by SAG Transmasch, formerly Bleichert, in Leipzig, Germany. The second crane bridge was for the purpose of unloading barges on the Oder-Spree canal. It was to be built and assembled by VEB Lauchhammer Maschinenfabrik, but work had not begun by October 1953.

7. Work on the excavation of the foundations for an ore shifting and crushing plant had also started in 1953. The construction of a magnetic separator and a dust-arrester installation was also in progress during 1953.

OPERATIONAL DATA

8. All iron processed at EKS in Fuerstenberg came from Krivoi Rog in the Ukraine, USSR. The ore was of poor quality (brown iron ore and bog iron ore). It contained about 30 per cent iron, 50 - 60 per cent water, 5 - 8 per cent silicic acid, 0.07 - 1.2 per cent phosphorus. This low iron content made concentration necessary; lime, dolomite, fluorite, etc. were used as additions for the furnace charge (scrap metal is not available in the eastern zone).

9. Coke was shipped to EKS either from Upper Silesia (Polish coke) or from Kladno in Czechoslovakia; no charcoal was used.

10. The rated productive capacity for one blast furnace of group I in constant operation was 500 tons daily. But the actual output was only between 250 and 320 tons per day.

11. The pig iron was shipped to various steel plants, for example Riesa (Brandenburg), Maxhuette near Saalfeld (Thuringia), Calle near Magdeburg, and probably others.

SOVIET SUGGESTIONS FOR IMPROVEMENT

12. To improve production, several Soviet engineers (blast furnace specialists) were at EKS in autumn 1952. They made a technological, metallurgical and economic survey, followed by a number of suggestions for improvement. I never met or talked to any of them, nor did I hear their names. From discussions about the subject between German engineers at EKS, I remember some of the criticism and suggestions which were made by the Soviets:

a. The bad transportation system from the burden to the bunker (a distance of 2,500 m.) should be improved;

b. the conveying speed of the inclined elevators should be raised to 2 m. per second;

c. the utilization of a greater number of truck ladles for pig iron (I believe that about 16 truck ladles of 18 tons and 12 of 12 tons capacity were then in use);

d. the utilization of a greater number of slag cars was demanded;

e. an increase of the rail tracks within the plant area;

f. to reduce the charge to tap time operating with 2,000 centigrades instead of the 1,350 centigrades was suggested (this suggestion was tried out at furnace No. 1, but unsuccessfully; by September 1953 the furnaces were finally operating at 1,400 to 1,500 centigrades temperature);

g. the Soviets also asked for a better training of the furnace crews, especially for the smelting foremen;

h. Another handicap for better output was the insufficient cooling of pigs at EKS; after too short a bathing period they were loaded on the cars, where they had to be watered; this system meant a maximum wear for the cars.

13. In a report I once saw there were several details regarding the Soviet demand for operation of the furnaces at 2,000 centigrade. These suggestions were doomed to failure for the following reasons:

a. It would have been necessary to have a higher blowing speed and to have the furnaces lined with magnesite brick lining which was unobtainable.

b. The temperature increase in the throat of the furnace would possibly have ruptured the cover and created the danger of an explosion (water vapor).

c. The return-cooling of the cooling-water was too difficult.

d. The chamber system of the hot-air stoves would have to be changed to hold the higher thrust of the compressors.

e. The heating-up of the air would have increased from normally 750-800 C to 950-1,000 C.

f. Changes in the crude-gas cleaning would also have been necessary.

14. Undoubtedly it would have been possible to achieve a daily output of 500 tons per furnace with such an improved smelting process and by a more favorable composition of the burden. But to my knowledge an output of 320 tons per day was the maximum ever achieved and none of these Soviet demands were either feasible or accomplished, at least not until October 1953 when I left Fuerstenberg.

15. I remember that on 23 November 1952 furnace No. 1 had to be generally repaired. This took until the middle of January 1953 when the blast was turned on again. The reason was a cold working of the furnace (Rohgang) with rupture of the silicate lining, then infiltration of the iron into the cooling chambers and rupture of the steel shell.

16. A dispatcher system was introduced at EKS in March or April 1953, but an adequate communication system was still not installed by September 1953, and only existing telephone equipment was used. I do not know any details of the working of this system at EKS.

EQUIPMENT AND INSTALLATION SUPPLIERS

17. The following firms participated in the construction of the EKS blast furnaces or supplied equipment:

Bau-Union, Fuerstenberg (with Bau-Union, Dresden, and Bau-Union, Halle, as general contractors): structural engineering.

Bergmann-Borsig, Berlin: Furnace shells, furnace lining, hot-air stoves, feedhead, furnace top-bells, cooling boxes machining (material from the steel plant Groeditz).

Bleichert Transportanlagenfabrik SAG Transmasch, Leipzig: inclined elevators.

Stahlbau Magdeburg & Stahlbau Berlin: steel construction.

VEB, Rohrleitungsbau, Bitterfeld, & VEB Behaelter und Rohrleitungsbau, Berlin: pipe lines.

VEB Feuerungsbau Karl Marx Stadt in Chemnitz and VEB Feuerungsbau in Magdeburg: furnace lining.

VEB Vereinigtes Pumpen & Kompressorenwerk in Leipzig, formerly Jaeger: blowing plant.

VEB Zwickauer Maschinenfabrik in Zwickau, and VEB Polysius, Dessau, formerly Dessauer Maschinenfabrik: piston compressors.

Juwill (Josef Willig), in Wurzen near Leipzig; filter installations.

VEB Montania in Leipzig, formerly Mosenthin: pig-casting machines.

VEB EKM (Energie- & Kraft Maschinen) in Bautzen, and Wuensche in Leipzig: conveyor installations for pig-casting machines.

VEB Stahlwerk, Riesa a/d Elbe: slag and pig iron truck ladles.

VEB Polysius in Dessau: car frames.

Reichsbahn, Cottbus: rails.

RFT, Cottbus & RFT, Dresden (Radio & Fernmelde-Technik): fuse equipment.

SAG Kabel, formerly AEG, in Berlin-Oberschoeneweide: cables and electrical material.

VEB Ernst Thaelmann Werke, formerly Krupp-Gruson, in Magdeburg: 100-ton crane for the pig-casting machines.

Sachsenwerk Niedersedlitz of SAG Kabel, in Dresden-Niedersedlitz: major electrical installations.

SAG Motorenwerke in Wernigerode, Thuringia: smaller electrical installations.

Messgeraete- u. Armaturenwerk Karl Marx, formerly Schaeffer & Budenberg, Magdeburg, thermodynamic equipment.

VEB Polygraph in Berlin-Weissensee; RFT, Dresden and RFT, Berlin: electrotechnical equipment.

VEB Pumpenwerk, Halle, formerly Weiss & Monsky, and VEB Vereinigte Pumpen & Kompressorenwerke, Leipzig: pumps.

SITE LAYOUT

18. I have made a [redacted] sketch [see page 10 of this report] covering the area of the EKS plant installations in Fuerstenberg a/d Oder. 50X1-HUM I remember the following points:

Point 1 Railroad
Double track, leading from the blast furnaces to a slag dump in 3 km. distance (formerly brown-coal mine "Praesident").

Point 2 Barracks
Wood constructions, for about 50 homes (for workers).

Point 3 Three Apartment Houses
These accommodated about 100 people's police (V.P.) members, all on duty at Stalinstadt iron works and their families.

Point 4 Road
This was the main road for the iron works, 12 m. wide, paved with slag bricks; with a shuttling service (busses) for workers and employees.

50X1

Point 5 — SED & Trade Union Headquarters
A building two stories high.

Point 6 — Road
This led to Politzer lake at 2 km. distance (main pump station for EKS water supply).

Point 7 — Kulturpalast
A brick construction;used only by the plant; movies, concerts, etc., were held here(hall for approximately 800 persons).

Point 8 — Road
This road led to Schoenfliess, a small village.

Point 9 — School
A mining and smelting school for all iron works in eastern Germany, under the Ministry for Metallurgy and Mining (Huettenwesen und Bergbau). The students were graduated after six semesters of technological courses (supervisor diploma).

Point 10 — Central Telephone Exchange Building
This building was used only by EKS and it also contained the office for thermodynamics at the plant. A brick construction, 20 x 8 m. four stories high.

Point 11 — Administration Building
For the technical administration of the blast furnaces and the planning staff for the steel plant project. It was two stories high with perhaps 150 rooms.

Point 12 — Emergency Station and Dispensary
This was for the plant. I believe that approximately 12 doctors worked there, including dentists.

Point 13 — Projected Generator Plant
For the projected steel and milling plant; no work started at all.

Point 14 — Projected Steel Plant Area
(Canceled project).

Point 15 — Road
Named "Strasse der Jugend," 6-8 m. wide, paved with slag stones.

Point 16 — Electric-Power Plant
This was only for the EKS iron works. A reinforced concrete construction, 30 x 20 x 20 m.; containing three gas turbines of 26,000 KW and one of 36,000 KW output (the latter under construction).

Point 17 — Main Entrance
Entrance to the plant, for vehicles and pedestrians; with guardhouse (1 people's police). Every employee and worker had a pass.

Point 18 — Transformer Station

50X1

Point 19 — Mechanical Workshops
Two buildings, each 30 x 20 x 6 m. used for the blast furnaces.

Point 20 — Laboratory
A wood construction on brick foundations for the blast furnaces. Used for examination of raw iron.

Point 21 — Road
Stahlwerkstrasse.

Point 22 — Projected Oxygen Plant Area
(Canceled project).

Point 23 — Road "Hochofenstrasse"
8 m. wide, paved with slag bricks.

Point 24 — Administration Building
A brick construction, three stories high for the blast furnaces. On the ground floor was a mess hall and various sale stores, the other two floors held bookkeeping, payroll and other clerical departments.

Point 25 — Transformer Station
This was for the blowing plant (Point 26).

Point 26 — Blowing Plant
A brick construction. Equipment has been described previously /see para.3/.

Point 27 — Open Storage Area
Used for some blast furnace machinery.

Point 28 — Siding
Used for pig-casting machines.

Point 29 — Approach Railroad to Projected Steel Plant
This siding had already been laid.

Point 30 — Three Wooden Barracks
They contained non-technical, administrative offices (transportation, etc.).

Point 31 — Pig Casting Machine No. 1

Point 32 — Pig Casting Machine No. 2

Point 33 — Pig Casting Machine No. 3
Under construction. /See paragraph 2 this report/.

Points 34 and 35 — Two Blast Furnaces
Of the second blast furnace group, one nearly completed, the other under construction; /see paragraph 2 of this report/.

Points 36 and - 39 — Four Blast Furnaces
(Group No. 1). See paragraph 2 of this report.

50X1

Point 40 Sintering Plant
A brick construction, 20 m. high, with 60 m. high smokestack.

Point 41 Fine-Ore Depot
Open pits.

Point 42 Area of the Housing Settlement "Stalinstadt"
This area was only for plant workers. Stalinstadt had its own administration.

Point 43 Border Between Stalinstadt and Fuerstenberg
(Marked by signs).

Point 44 Locomotive Repairshop
Used for plant locomotives.

Point 45 Bunker
Used for blast furnace charging of the 2 blast furnaces (point 34 and point 35), with inclined elevators.

Point 46 Bunker
Used for charging the 4 blast furnaces of group I (points 36 - 39 this report); with inclined elevators.

Point 47 Overpass
Used by pedestrians only

Point 48 Conveyor Belt
In covered ditch (canal) from the crushing plant, point 50, to the bunker, point 46. Electrically operated. The ditch was approximately 4 m. wide and 6 m. deep.

Point 49 Conveyor Belt
Used for charging; height above ground 8 m.

Point 50 Crushing Plant
A brick construction, 20 m. high.

Point 51 Ore Pulverizer
A brick construction.

Point 52 Thawing Plant
With adjoining boiler-house, used for frozen ores.

Point 53 Railroad and two Road Bridges over canal
Steel construction.

Point 54 Granulating Plant
A conveyor belt (point 55) transported the gained fine sand to the cement factory (point 56).

Point 55 Conveyor Belt(1 m. wide)
Constructed on poles 10 to 12 m. high. Operating from the granulating plant (point 54) to the cement factory (point 56).

Point 56 Cement Factory (VEB)
Located in Fuerstenberg.

[redacted] 50X1

Point 57 Slag Dump
Used for the granulating plant (point 54).

Point 58 Pontoon Bridge
Over the canal (for pedestrians).

Point 59 Crane Bridge
Under construction; intended for the ore storage yard (point 60) span width 40 m. and a lifting capacity of the trolley carriage of 40 tons; completion planned for the end of 1953.

Point 60 Ore Storage Yard

Point 61 Sifting and Crushing Plant
Not completed by October 1953.

Point 62 Conveyor Belt
Used for ore from the sifting plant (point 61) to the bunker (point 46). Electrically operated, speed 3 m. per second, 1 m. wide, 300 kg. carrying capacity per meter, mounted on poles with roof cover.

Point 63 Oder Canal

Point 64 Main Railroad Tracks
Running from railroad station Fuerstenberg to the plant.

Point 65 Ernst Thaelmann Street
Leads from railroad station Fuerstenberg to the border Stalinstadt.

Point 66 Underpass
Road to Fuerstenberg.

Point 67 Main Railroad
Direction Cottbus and Frankfurt a/d Oder; double track.

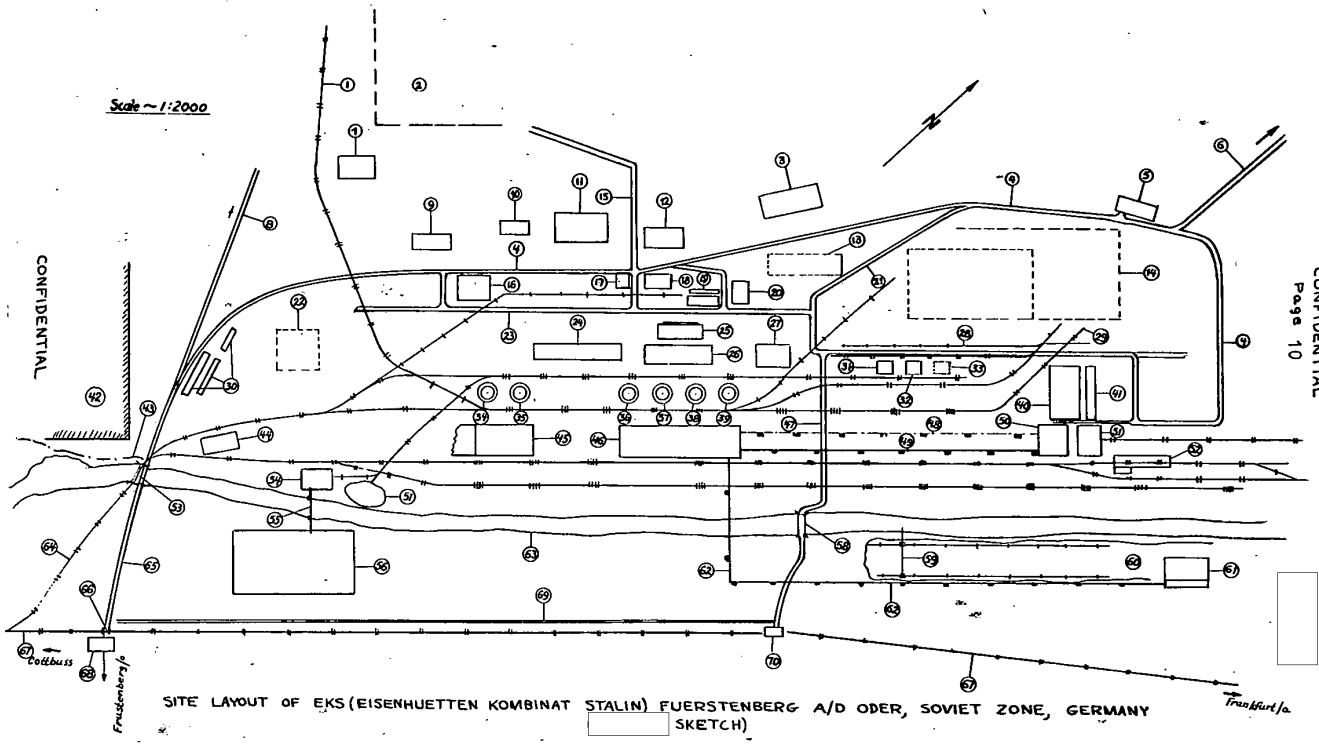
Point 68 Railroad Station Fuerstenberg a/d Oder.

Point 69 Small Road
Leads from Vogelsang (village) to Fuerstenberg.

50X1-HUM

Point 70 Railroad Station Vogelsang.

[redacted]



SITE LAYOUT OF EKS (EISENHUETTEN KOMBINAT STALIN) FUERSTENBERG A/D ODER, SOVIET ZONE, GERMANY
[redacted] SKETCH)

50X1

50X1-HUM